ABSTRACTS – POSTER

1083 Acute Coronary Syndromes: Serum Markers and Electrocardiographic Related Studies

Tuesday, March 31, 1998, 9:00 a.m.–11:00 a.m.
Georgia World Congress Center, West Exhibit Hall Level
Presentation Hour: 10:00 a.m.–11:00 a.m.

1083-125 Long-term T-Wave Evolutionary Changes Predict Unfavorable Remodeling After Myocardial Infarction

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Background: The significance of negative T waves (negT) after myocardial infarction (MI) is still controversial, and the relationship between T wave changes and LV remodeling is unknown.

Methods: We studied 536 patients (pts) enrolled in the GISSI3-Echo substudy without complete intraventricular conduction defects or cardiac events at follow-up. All pts underwent standard ECG and echo studies at 24–48 hours (S1), at hospital discharge (S2), at 6 weeks (S3) and 6 months (S4) after AMI.

Results: At any time pts with more than 2 negT (excluding aVr and V1) showed greater ($p < 0.001$) wall motion abnormalities (akinesia/dyskinesia) (%WMA), QRS Wagner score (QRSs) and lower EF than pts with ≤2 negT. At S4 pts with >2 negT also showed a greater ventricular end-diastolic volume index (EDVi) than pts with ≤2 negT ($p < 0.001$). According to the T wave changes observed between S2 and S4, pts were divided into 3 groups: with persistent positive T waves (T++), pts who showed a decrease in the number of negT (T−+) and those with an increase in the number of negT (T>−). The T++ and T−+ goups showed a significant decrease ($p < 0.001$) in %WMA with no significant changes in EDVi, EF and QRSs. In contrast, the T>− group did not improve in %WMA and showed a significant increase ($p < 0.01$) in EDVi (from 71 ± 20 to 80 ± 25 ml/mq) and QRSs with decrease in EF (from 50 ± 10 to 47 ± 10%).

Conclusion: At any time after AMI, pts with negT usually have a more extensive myocardial damage. Late appearance of new negT is associated with a significant ventricular dilatation and dysfunction over time.

1083-126 Transient Worsening of ST Elevation During Successful Thrombolysis in Anterior Myocardial Infarction: Relation to Systolic Function Recovery

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Background: Reduction of ST elevation during thrombolysis is commonly considered marker of reperfusion. However, the significance of a sudden worsening of ST elevation that occurs in some patients just before ST reduction is not still known.

Methods and Results: From a total of 69 consecutive pts with anterior AMI, we selected 20 (16 males, mean age 54 yrs) all undergoing thrombolytic therapy (TT), who showed all the following signs of reperfusion: relief of chest pain, >50% reduction of ST elevation, reperfusion arrhythmias and early CK peak. All pts underwent continuous 12-lead ECG monitoring during TT: 11 pts (*Group A*) exhibited worsening of ST elevation followed by rapid decrease in 5–15 min, while 9 pts (*Group B*) showed gradual and progressive ST reduction. A 2D-Echo was recorded an admission, immediately before discharge and after 3 months to evaluate the asinergy score (*Score*, hypokinesia = 1, akinesia = 2, dyskinesia = 3) and ejection fraction (*EF*).

	Group A	Group B	p
Score admission	18 ± 6	16 ± 5	NS
discharge	16 ± 7	10 ± 6	0.02
3 months	13 ± 4	6 ± 4	< 0.001
EF admission	44 ± 10	49 ± 9	NS
discharge	53 ± 11	66 ± 5	0.04
3 months	46 ± 10	60 ± 10	< 0.001

Conclusion: Transient ST worsening during TT appears to predict a lesser recovery of regional and global systolic function. The significance of this observation requires further investigation but may imply that this sign indicates a less effective reperfusion.

1083-127 Precordial ST Segment Depression in Inferior Wall Acute Myocardial Infarction: Different Angiographic Finding Between Right (V1–V3) Versus Left (V4–V6) Leads

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Precordial ST segment depression (ST ↓ has been associated with poor prognosis in patients with inferior wall acute myocardial infarction (IAMI). However, there is controversy concerning the underlying mechanism, especially whether precordial ST segment depression is associated with concomitant left anterior descending or multivessel coronary artery disease. We assessed the correlation between the pattern of ST ↓ on admission and the coronary angiographic findings among 1155 patients with IAMI who participated in the GUSTO-I Angiographic Substudy. Patients were classified into those without ST ↓ (n = 412; 35.7%), those with ST ↓ maximally found in leads V1 to V3 (n = 547; 47.4%), and those with maximal ST ↓ in V4–V6 (n = 196; 17.0%). Patients with ST ↓ in V4–V6 had a higher rates of three vessel disease (26.0%), compared with those without ST ↓ (13.5%) and those with ST ↓ in V1–V3 (15.7%) ($p = 0.002$), and lower ejection fraction (53.1 ± 11.2 vs 58.0 ± 11.5 and 55.2 ± 10.8, respectively; $p = 0.0001$). Patients with ST ↓ in V1–V3 had less often IAMI due to proximal right coronary artery obstruction (23.9%) than patients without ST ↓ (35.2%) and those with ST ↓ in V4–V6 (40.0%), and ($p < 0.001$).

Conclusions: 1. ST ↓ in leads V4–V6, but not in V1–V3 is associated with higher rates of multivessel coronary artery disease. 2. ST ↓ in V1–V3 is seen less often when the infarct related artery is the proximal right coronary artery.

1083-128 Is there a Need for Multiple Cardiac Enzymatic Values for the Diagnosis of Myocardial Infarction?

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Although multiple enzymatic assays (creatine kinase and MB isoform MBCK, myoglobin, LDH, cardiac troponin I cTnI) are now available and utilized for diagnosis of AMI, the relative diagnostic value of each is not fully established. Accordingly, we prospectively evaluated the relative usefulness of these enzymatic assays in the diagnosis of AMI in 302 consecutive patients who were admitted to the CCU at our center between 07/96 and 06/97 with a clinical suspicion of AMI. Sixty-six had AMI on the basis of WHO criteria, utilizing clinical symptoms, ECG findings, and cardiac enzymes; of the 87 who had elevated cTnI, 59 had AMI (sensitivity 89%, specificity 88%). In contrast, the traditional criterion of MBCK had sensitivity of 75% and specificity of 86% (30 of 66 patients had elevated MBCK). Of 236 patients who did not have AMI, 28 had elevated cTnI. To further evaluate the value of multiple enzymatic assay in the diagnosis of AMI, we examined various combinations of cardiac enzymes and found that MBCK with cTnI provided only marginal additional information (sensitivity 91%, specificity 85%). Values of cTnI, MBCK and CK-index together had sensitivity of 92% and specificity of 85%. Myoglobin (sensitivity 65%, specificity 65%) and LDH (sensitivity 74%, specificity 63%) were found to be less sensitive and specific for diagnosing AMI.

Conclusion: These results demonstrate that in patients with a clinical picture of AMI, cTnI provides the appropriate information for the accurate diagnosis of AMI. Enzymatic assays other than cTnI might not be essential for the diagnosis of AMI in most cases.

1083-129 A Comparison of Static Serial vs Continuous ST-Segment Recovery to Predict Outcome After Lytics for MI

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In MI pts, ST-segment recovery (STREC) on serial static ECGs vs STREC on continuously monitored ECGs both correlate with outcome but have never been compared. In all 973 pts from TAMI 9 (214), DUCCS II (33),